II. Potential Users

Bicyclists

On average, bicyclists require a minimum of 40 inches of operating space, even though bicyclists vary in size. A minimum width of four feet is necessary for any bicycle facility with exclusive or preferential use by bicyclists. When bicyclists are traveling along side motor vehicles, a width of five feet or more is suggested for bicyclists.[6]

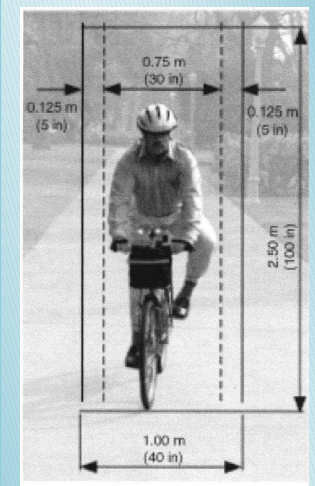


Figure 1. Bicyclist Operating Space

While the minimum operating space and bicycle facility width remains relatively the same between users, the skills, confidence and preferences of bicyclists vary largely. The challenge every bicycle facilities plan is designing the facilities for the diversity of user skills. According to the FHWA, the federal policy goal for bicycling is "to accommodate current use and encourage increased use, while enhancing safety."[7]

The Federal Highway Administration (FHWA) identifies the following three different types of bicycle users;[8]

- Group A: Advanced Bicyclists
- Group B: Basic Bicyclists
- Group C: Children

Defining the bicyclist skill level through three groups and designing for the specific groups helps refine roadway and path treatments. A description of the three different types of bicycle users by The American Association of State Highway and Transportation Officials (AASHTO)[9] is presented below. Characteristics specific to the City of Canandaigua's Group A, B, C riders is included.

The CWC chose to design the bicycle facility guidelines for Group B: basic bicyclists, while being aware of the needs for Groups A and C.

Group A: Advanced Bicyclists

Group A, advanced or experienced riders, are generally using their bicycles as they would a motor vehicle. They are riding for transportation and recreation. They desire convenience and speed and want direct access to destinations with a minimum of detour or delay. Advanced riders are typically comfortable riding with motor vehicles in traffic. They comprise the majority of the current users of collector arterial streets and are best served by the following:

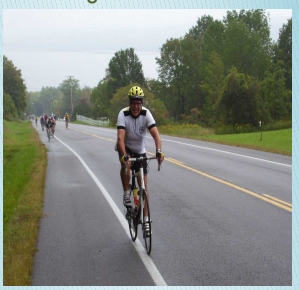
1. Direct and convenient access to destinations usually via the existing street and highway system.
2. The opportunity to operate at maximum speed with minimum delays.
3. Sufficient operating space on the roadway or shoulder to reduce or preferably eliminate the need for either the bicyclist or motorists to change position when passing.

During the months April thru October the City of Canandaigua has a large resident and visitor population of Group A riders which included individuals, groups, tours, and special events.

Destination bicycle facilities are important to this group: bike racks, storage lockers, clothes changing facilities.

Ideally for Group A riders, all roads would be "Complete Streets" or at least "Bicycle Friendly".

2008 Highlander Tour



Lloyd Peterson on Miller Hill
730 Riders
$20,000 for Charity

2008 Bon Ton Roulet Tour

Drying out in Canandaigua

Approx. 500 riders
I night stay

Group B: Basic Bicyclists

Group B, basic adult and teenage riders, may also be using their bicycles for transportation purposes, e.g. to get to the store or visit friends. Group B bicyclists are less confident of their ability to operate in traffic without special provisions for bicycles. Basic riders prefer to avoid roads with fast and busy motor vehicle traffic unless there is ample roadway width to allow easy overtaking by faster motor vehicles. Thus, basic riders are comfortable riding on neighborhood streets and shared use paths and prefer designated facilities such as bike lanes or wide shoulder lanes on busier streets. Some will develop greater skills and progress to the advanced level, but the majority of bicyclists will always be basic bicyclists.

Group B bicyclists prefer:

1. Comfortable access to destinations, preferably by a direct route, using either low-speed, low traffic-volume streets or designated shared-use paths. Basic riders avoid routes with high-volume or high traffic speeds.
2. Well-defined separation of bicycles and motor vehicles on arterial and collector streets (bike lanes or shoulders) or separate bike paths.

Ideally for Group B riders, all roads would be “Complete Streets” or at least “Bicycle Friendly”.

Group B bicyclists would be best served by designated bicycle facilities on key alternate routes through main travel corridors and shared-use paths.

Destination bicycle facilities are very important to this group: bike racks

The number of Americans who ride bicycles is greater than all those who ski, golf, and play tennis combined.[10]

Group C: Children

Group C bicyclists are children riding on their own or with their parents. This group may not travel as fast as their adult counterparts, but still require access to key destinations in their community, such as schools, convenience stores, and recreational facilities. Group C bicyclists prefer the following:

1. Access to key destinations surrounding residential areas, including schools, recreation facilities, shopping, or other residential areas.
2. Residential streets with low motor vehicle speed limits and volumes linked with shared use paths and designated bike route streets with well-defined pavement markings between bicycle and motor vehicles.
3. Well-defined separation of bicycles and motor vehicles on arterial and collector streets linked with shared use paths and other bicycle facilities.

Similar to Group B bicyclists, Group C bicyclists would be best served by shared use paths and designated bicycle facilities on key alternate routes through main travel corridors.

Well maintained off-road facilities (sidewalks) and shared use paths are vital to this group.

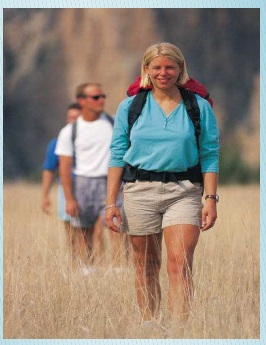
There are 60 million Americans under 16 years of age that are not allowed to drive.[11]

Pedestrians

Walkers, Runners, Hikers

People predominantly walk for transportation to a nearby destination or recreation/health. Walkers use sidewalks or in luau of sidewalks wide shoulder streets with low speed and traffic levels. Runners use smooth surface sidewalks over shoulders but prefer multi-use paths. Hikers use nature paths. Safety at City intersections is the number one concern. Pedestrians prefer:

1. A safe place to walk – This includes:
    a. A smooth, unobstructed walking surface at least wide enough for two wheelchairs to pass each other.
    b. A sidewalk or path that is separated from traffic
    c. Safe street crossings with appropriate crosswalks, signage and signals
    d. Well defined separation between bicycles and pedestrians on shared use paths
2. Rest areas with emergency phones, trash cans, benches and doggie bag dispensers.
3. The ability to see traffic and be seen by traffic
4. Full access to sidewalks and crossings – well-designed curb ramps
5. Enough time to cross street –
6. Signs and markings designating the pedestrian route
7. Continuous facilities – network should be free of gaps, obstructions, and abrupt changes in direction or width.



Physically Challenged

Passage of the Americans with Disabilities Act in 1990 gave civil rights protection to individuals with disabilities. The ADA defines an individual with a disability (ADA, 1990) as a person who has a physical or mental impairment that substantially limits one or more major life activities. The ADA was passed to prohibit discrimination against people with disabilities. Title II of the ADA requires public entities that build sidewalks and trails to provide program access to existing facilities and to design and construct new facilities and altered facilities to be readily accessible to individuals with disabilities.
Title III requires places of public accommodation to remove barriers to access when it is readily achievable to do so and to meet the requirements for new construction and alteration in the ADA Standards for Accessible Design.

The Active Transportation Plan's recommendations comply with and are sensitive to the disabled through design compliance with ADA guidelines.

The physically challenged prefer:

1. A smooth, unobstructed surface at least wide enough for two wheelchairs to pass each other.
2. A sidewalk or path that is separated from traffic.
3. Safe street crossings with appropriate crosswalks, signage and signals.
4. Enough time to cross street.
5. The ability to see traffic and be seen by traffic.
6. Full access to facilities, sidewalks and crossings.
7. Continuous facilities – network should be free of gaps, obstructions, and abrupt changes in direction and width.
8. Fully accessible public transportation

Senior Citizens

Senior citizens predominantly walk for exercise and transportation to nearby destinations. They have the same needs and preferences as walkers but may need walking assistance such as cane or walker. Senior citizens prefer:

1. A Safe place to walk – *refer to walkers*
2. Full access to facilities, sidewalks and crossings.
3. Sufficient time to cross streets – extend light intervals
4. Continuous facilities – network should be free of gaps, obstructions, and abrupt changes in direction and width.
5. Rest areas at regular intervals to include benches
6. Emergency telephones at regular intervals

30 million adults are not licensed to drive for a variety of reasons including economics, age, disability and choice.
8 million Americans above the age of 60 do not have a driver's license.[12]

Do the Math:

In the City of Canandaigua there are over;
2,000 children,
1,000 adults,
400 senior citizens,
that do not have a drivers license.*

*based on 300 million U.S. and 11,000 City of Canandaigua population.

City of Canandaigua Demographics

An Active Transportation System will serve all the residents and our neighbors by offering a safe, convenient, well maintained network for non-motorized transportation. The table below shows the breakdown of the population by age group according to the 2000 U.S. Census.

City of Canandaigua Population
by Age Group

Subject	#	%
Total Population	11,264	100.0
Under 5 years	655	5.8
5 to 9 years	750	6.7
10 to 14 years	791	7.0
15 to 19 years	681	6.0
20 to 24 years	657	5.8
25 to 34 years	1,378	12.2
35 to 44 years	1,745	15.5
45 to 54 years	1,537	13.6
55 to 59 years	523	4.6
60 to 64 years	416	3.7
65 to 74 years	954	8.5
75 to 84 years	829	7.4
85 years and over	348	3.1
Median age	39.4	
18 years and over	8,643	76.7
21 years and over	8,249	73.2
62 years and over	2,374	18.9

Source: U.S. Census Bureau - 2000 Census

More than one in five Americans 65 or older does not drive. Over half of these non-drivers stay at home because they say they have no transportation options.[13]

The table below shows several important trends; the dominance of the personal car in our society, 89% of the commuting population uses a car, truck or van to get to work. With the mean travel time at 20 minutes that means many of the workers live within 10 miles or a 40 minute bike ride of their workplace.

City of Canandaigua
Means of Commuting to Work
Workers 16 years and over

Subject	#	%
Workers 16 years and over	5,288	100.0
Car, Truck, or Van – drove alone	4077	77.1
Car, Truck, or Van – carpooled	627	11.9
Public Transportation	69	1.3
Walked	362	6.8
Other means	46	.09
Worked at Home	107	2.0
Mean travel time to work(minutes)	19.8	

Source: U.S. Census Bureau – 200 Census

Do the math!

If just one worker rode a bicycle 5 miles to work each day he would reduce his individual CO_2 emissions by 1287 lbs. annually.* This would be about 10% of the average US individual's total emissions.[14]

That's an energy savings equivalent of:

- Flying 2,429 fewer miles a year
- Recycling 400 lbs. of waste instead of sending it to the landfill.

*Assuming bicycling 5 days a week, car fuel efficiency of 20 mpg. And avg. CO_2 content of 20 lbs. per gallon of gas.